

## ABSTRACT

5       A impeller shaft assembly is disclosed for use in a  
refrigerant compressor, and more particularly in a commercial  
high-speed centrifugal impeller shaft configuration. The  
impeller shaft assembly includes a contoured spacer body. The  
contoured spacer body includes a front face, a rear face, a  
recessed spring bearing surface in its rear face, and a spring  
10       spacing abutment including a shoulder that is seated against a  
protective washer. The contoured spacer body functions to  
prevent the headed front end of a fastener from coming into  
direct contact with a spring assembly and protective washer.  
Consequently, the spring assembly and protective washer are not  
15       sized to correspond to the cross-section area of the headed  
front end as disclosed in the prior art. Instead, the  
protective washer and spring assembly are sized to fit the rear  
face of the contoured spacer body, which in turn is sized to  
fit the front face of a first stage impeller. The contoured  
20       spacer body ensures that the clamp load is dissipated across  
the front face of the first stage impeller. The contoured  
spacer body also provides greater protection to the first stage  
impeller during installation and maintenance. In another  
embodiment, the contoured spacer body and headed front head are  
25       combined to make a contoured front end.

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